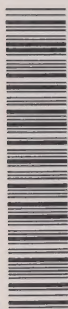


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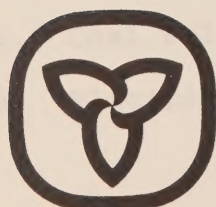


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ONTARIO ENERGY HIGHLIGHTS 1976

In 1976, the rate of increase in total energy consumption rose following the declines reported since 1973. Use of oil and natural gas increased and was accompanied by increases in deliveries to Ontario.

Oil maintained its position as the major source of energy. The use of electricity increased at a much higher rate than in 1975. More coal and uranium were used for thermal generation of electricity reversing the 1975 decreases. Use of coal for other industrial purposes decreased.

There was a significant increase in the output from the Pickering nuclear generating station. Three of the four units operated at more than 90 percent capability. The first unit at Bruce, Ontario Hydro's second large nuclear generating station, started to produce power to the network in December of 1976.

Ontario Hydro completed arrangements with western Canadian coal producers for increased future supplies to fuel its thermal generating stations.

PRIMARY ENERGY CONSUMPTION IN ONTARIO 1976

In 1976, total energy consumed in Ontario was $2,960 \times 10^{12}$ BTUs (British Thermal Units), an increase of more than 5 percent over 1975 following a minor increase in 1975 over 1974. Consumption during the 11 year survey period from 1965 is shown at Figure 2. Relative shares of fuels are shown in pie chart format in Figure 1 for the two years 1965 and 1976.

Over the survey period, energy consumption in Ontario has accounted for around 35 percent of total Canadian energy consumption.

In 1976, use of oil increased; this followed a decrease in 1975. Oil continues to supply the major share of Ontario's energy requirements but its proportion of total energy consumption has decreased over the survey period.

Natural gas consumption also increased in 1976 following a 1975 decrease. Consumption of natural gas has grown quickly and over the survey period has nearly doubled its share to about one quarter of total energy consumption.

Coal consumption again increased although at a lower rate than in 1975. Its share of total energy consumption remained at about 15 percent. More than half of the coal was consumed in thermal generation of electricity.

Electricity consumption increased by more than 7 percent following a minor increase in 1975. Over the survey period, hydraulic generation has accounted for a decreasing proportion of the total electricity produced and the contribution from thermal has increased.

PRIMARY ENERGY CONSUMPTION BY SOURCE
AS PERCENT OF TOTAL CONSUMPTION
IN ONTARIO

Figure 1

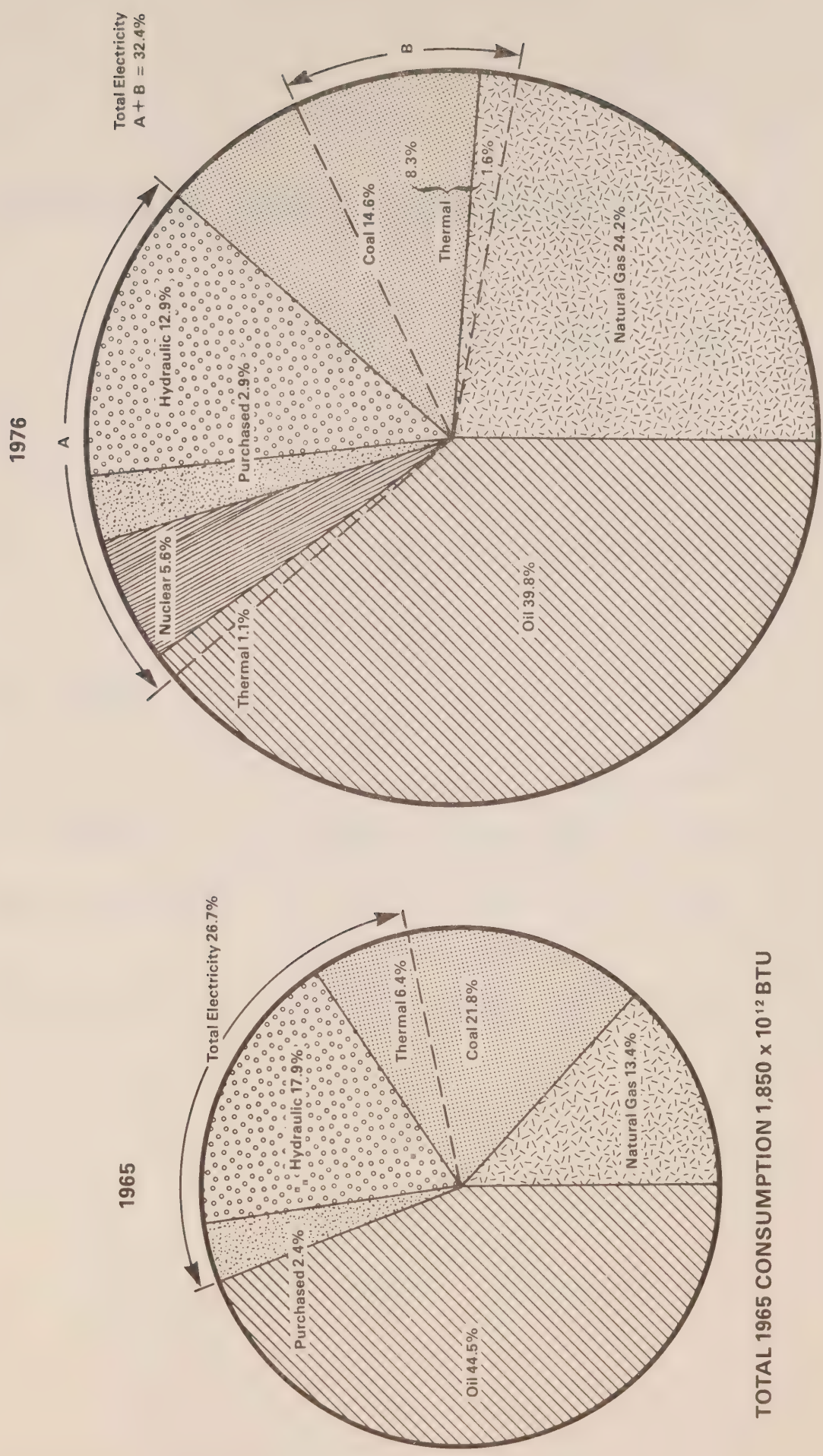


TABLE 1

Ontario Energy Consumption Annual Percent Increases

	<u>1976</u>	<u>1975</u>	<u>1974</u>	<u>1973</u>
Oil	6.1	-2.9	2.8	3.9
Natural Gas	6.8	-2.6	11.3	3.7
Coal	1.7	18.0	-11.2	-8.7
Electricity:				
Hydro	-0.3	-7.2	1.4	-1.1
Nuclear	38.6	-14.4	-2.8	133.0
Purchases	-18.4	72.9	44.7	4.9
Total Electricity	7.6	0.6	5.1	6.6
TOTAL ENERGY	5.2	0.3	2.7	3.9

PRIMARY ENERGY CONSUMPTION IN ONTARIO 1965-1976

Figure 2

(10¹² BTU)

ENERGY SOURCE	1965	1970	1971	1972	1973	1974	1975	1976
Oil	824	1,024	1,034	1,071	1,112	1,143	1,110 ¹	1,178
Natural Gas	247	440 ¹	495	595	617	687	669	715
Coal ¹	404	476	439	445	407	361	426	433
Hydraulic Electricity	331	391	381	413	408	414	384	383
Nuclear Electricity	-	10	39	61	143	139	119	164
Purchased Electricity	44	56	43	41	42	61	107	87
Total	1,850	2,397	2,431	2,626	2,729	2,805	2,815	2,960

PERCENTAGES

Figure 3

ENERGY SOURCE	1965	1970	1971	1972	1973	1974	1975	1976
Oil	44.5	42.7	42.5	40.8	40.8	40.7	39.4	39.8
Natural Gas	13.4	18.4	20.3	22.7	22.6	24.5	23.8	24.2
Coal	21.8	19.9	18.1	17.0	14.9	12.9	15.1	14.6
Hydraulic Electricity	17.9	16.3	15.7	15.7	14.9	14.8	13.7	12.9
Nuclear Electricity	-	0.4	1.6	2.3	5.2	4.9	4.2	5.6
Purchased Electricity	2.4	2.3	1.8	1.5	1.6	2.2	3.8	2.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

CONVERSION FACTORS

Oil: 5.8 X 10⁶ BTU/barrel

Natural Gas: 1.0 X 10⁶ BTU/thousand cubic feet. All electricity: 10,000 BTU/kilowatt hour

Coal: 26.2 X 10⁶ BTU/short ton

Note: 1. Includes use in thermal generation of electricity; natural gas from 1970, oil from 1975.

Note: The conversion factor adopted for hydraulic, nuclear and purchased electricity is the equivalent thermal energy assuming efficiency of conversion is that of a coal-burning plant.

OIL IN ONTARIO

General

During 1976, Ontario consumed around 556,000 barrels a day of refined petroleum products which represented an increase of 6 percent over 1975 levels. Oil continued to provide around 40 percent of the province's energy requirements and Ontario consumption accounted for over 30 percent of total oil consumed in Canada.

Refinery capacity in Ontario was virtually unchanged over that in 1975. Refinery output increased nearly 2 percent. Refined petroleum products imports and exports decreased. Transfers of products from other provinces decreased while transfers to other provinces increased. Ontario oil production again decreased and supplied less than 1 percent of total requirements. Further increases occurred both in crude oil costs and selling prices of products.

Crude Oil

Deliveries of crude oil from western Canada increased slightly during 1976 to around 442,000 barrels per day (bpd) following the 7 percent decrease recorded in 1975. Commencing in August, imports of domestic U.S. crude oil were received in exchange for similar quantities of western Canadian crude delivered to U.S. refineries. During December 1976, these imports were being received at the rate of over 35,000 bpd and accounted for 1 percent of total crude oil deliveries.

In 1976, there were no trans-shipments of crude oil by tanker from Ontario to Quebec. Following completion and placing in service by Interprovincial Pipe Line of its crude oil line from Sarnia to Montreal, these movements were no longer required.

Deliveries from Alberta accounted for nearly 80 percent of Ontario crude requirements. Shipments from Saskatchewan accounted for nearly 17 percent and those from Manitoba provided 2 percent of total supply.

Except for imports from the U.S.A. resulting from the crude oil exchanges as previously noted, there were no imports of foreign crude oil in 1976.

The cost of Canadian crude oil delivered to Ontario increased in 1976 as a result of the federal government decision to increase the average wellhead price of

Alberta crude from \$8.00/barrel to \$9.05/barrel on July 1, 1976. (Two further increases occurred in 1977 - \$0.70 on January 1, 1977 and \$1.00 on July 1, 1977.)

Table 2

Ontario Oil Balance 1976 (1)

<u>Supply</u>	<u>Quantities in Thousands of Barrels</u>	<u>of Total</u>	<u>Percent Changes</u>	
			<u>1976/75</u>	<u>1975/74</u>
Crude Oil:				
Ontario production	621	0.3	-11.8	-4.1
From western provinces (2)	161,389	77.1	0.2	-7.1
Imports from Venezuela	-	-	-100.0	338.2
Imports from U.S.A. (3)	2,329	1.1		
Net transfers and other materials	1,756	0.8		
Total run to stills	166,095	79.3	1.7	-1.2
Products:				
Transfer from other provinces	33,697	16.1	-7.9	14.2
Imports	2,282	1.1	-16.9	-36.6
Other receipts	7,318	3.5	18.6	-5.6
Total product receipts	43,297	20.7	-4.9	6.0
Total Supply	209,392	100.0	0.2	0.3
<u>Disposition of Products</u>				
Consumption:				
Sales	191,955	91.7	5.9	-2.9
Company use	11,103	5.3	9.9	-2.9
Total consumption	203,058	97.0	6.1	-2.9
Other:				
Transfer to other provinces	4,870	2.3	9.9	29.0
Exports	8,304	3.9	-18.2	43.6
Inventory changes	-5,528	-2.6		
Losses	-1,312	0.6		
Total other disposition	6,334	3.0	-63.6	54.7
Total Disposition	209,392	100.0	0.2	0.3

(1) Based on Statistics Canada 45-004

(2) Crude oil, condensate and pentanes plus, comingled propane and butane mixes

(3) U.S.A. domestic crude oil in exchange for equal deliveries of western Canada crude to refineries in the U.S.A. (Beginning August 1976.)

Table 3

Canadian Oil Requirements in Percent of Total for 1976

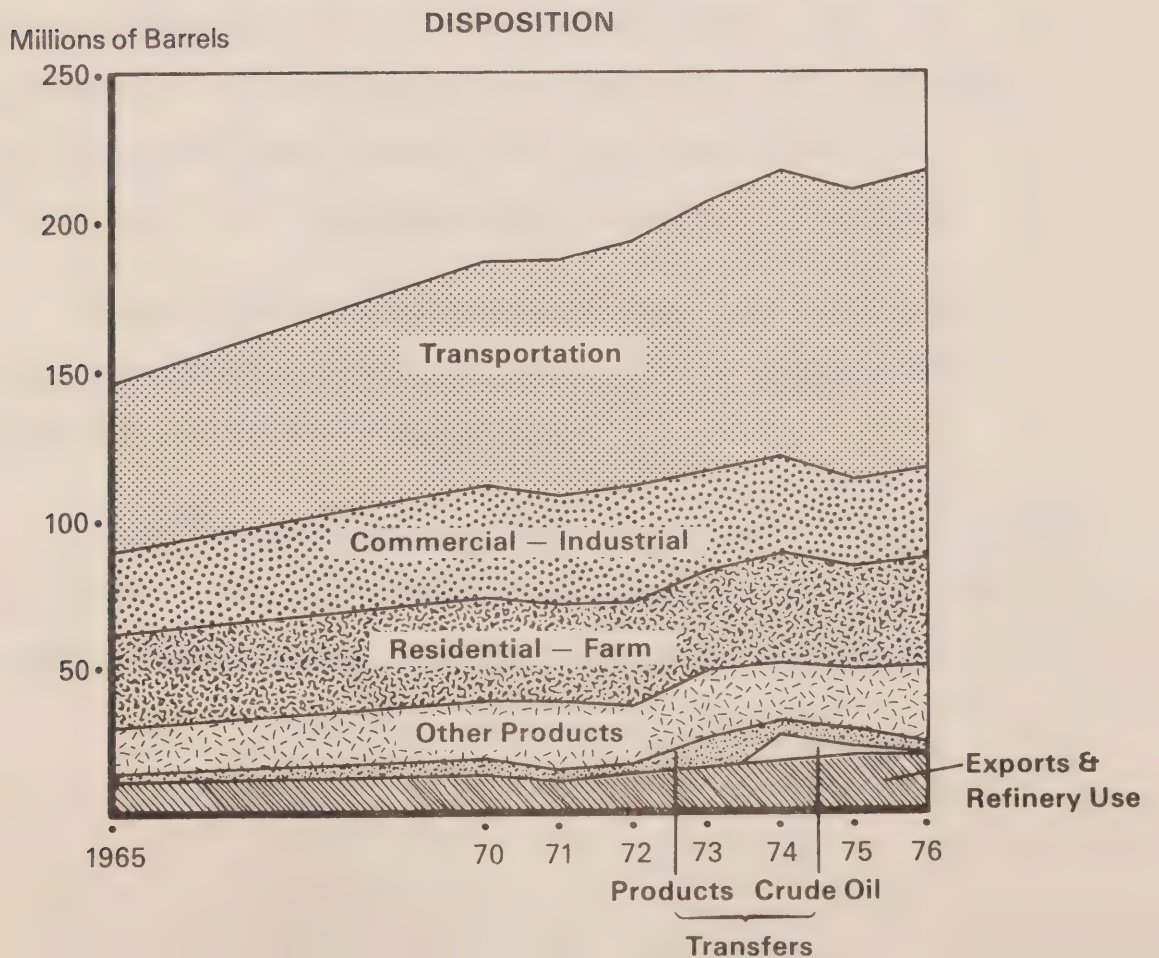
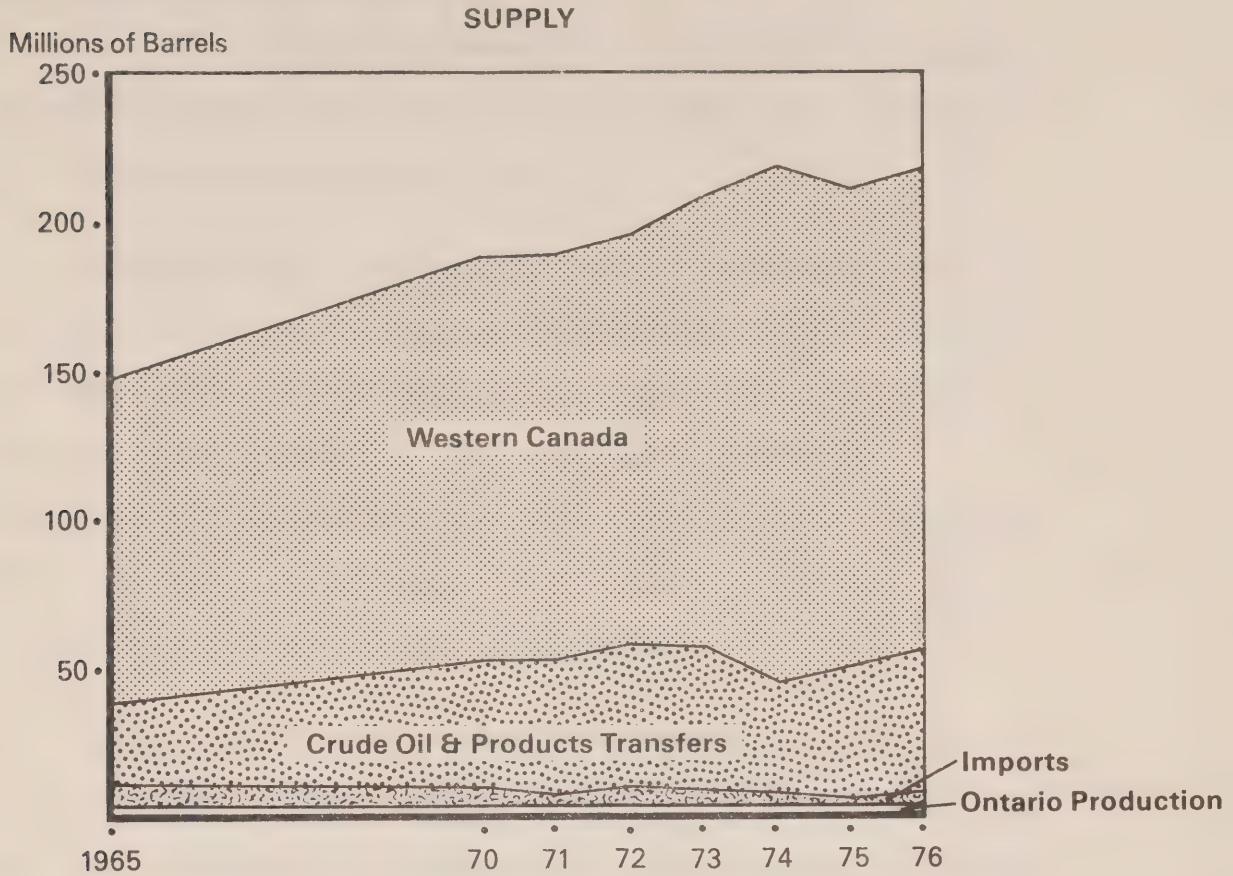
	<u>Ontario</u>	<u>Prairies & N.W.T.</u>	<u>Quebec & Maritimes</u>	<u>B.C.</u>	<u>Total</u>
Crude Receipts					
Canadian	26.2	16.8	4.8	8.7	56.5
Imported	0.3	-	41.7	-	42.0
Total	26.5	16.8	46.5	8.7	98.5
Net Product Exports	-0.9	-0.2	-0.8	0.3	-1.6
Provincial Transfers ⁽¹⁾	5.4	-0.6	-2.4	0.7	3.1
Total Consumption	31.0	16.0	43.3	9.7	100.0

(1) Product Transfers between provinces plus other materials to stills plus inventory changes.

Source: Oilweek

OIL IN ONTARIO

Source: Statistics Canada No. 45-004, 57-207 & 57-505



Refined Petroleum Products

In 1976, Ontario consumption of refined petroleum products increased 6 percent to 556,000 bpd, following a 3 percent decrease in 1975.

Nearly three quarters of total consumption was accounted for by three major products - motor gasoline (39 percent), light fuel oil (19 percent), and heavy fuel oil (14 percent). For all three products consumption increased over 1975 levels; motor gasoline by 2 percent, light fuel oil by nearly 8 percent and heavy fuel oil by almost 12 percent.

Ontario refinery production increased by about 2 percent to 455,000 bpd and represented over 80 percent of total provincial consumption. The balance of Ontario's consumption was mainly supplied by product transfers from other provinces, principally Quebec. Over 80 percent of motor gasoline and heavy fuel oil consumption was supplied from Ontario refinery production; for light fuel oil the proportion was nearly 70 percent.

Imports of refined products from the U.S.A. and offshore sources decreased by around 17 percent from 1975 levels to about 6,000 bpd.

Exports of petroleum products to the U.S.A. decreased 18 percent over 1975 levels to around 23,000 bpd. Of total exports, motor gasoline accounted for about

10 percent, heavy fuel oil nearly 75 percent, and light fuel oil 2 percent.

The selling prices of refined petroleum products in Ontario increased mainly due to the higher costs of Canadian crude oil deliveries.

Table 4

Sources of Three Significant and All Petroleum Products 1976

Expressed as Percentages of Consumption and Changes

Motor Gasoline Light Fuel Oil Heavy Fuel Oil All Products

Percent Percent Percent Percent

Change over 1975 Change over 1975 Change over 1975 Changes 1976/ 1975/ 1975 1974

Consumption Consumption Consumption Consumption

Refinery Production	86.3	-2.3	68.5	11.0	80.3	2.7	81.8	2.2	-1.9
Transfers:									
Interprovincial In	11.1	-24.2	13.6	-18.8	37.7	31.5	16.6	-7.9	14.2
Out	1.1	30.2	2.8	96.1	Ø	-87.3	2.4	9.9	29.0
Net	10.0	-27.5	10.8	-29.4	37.7	32.8	14.2	-10.3	12.4
Interproduct	4.1	186.7	11.3	-25.9	0.1	-97.9	Ø	Ø	Ø
Inventory (net)	0.3	N/C	7.9	N/C	2.6	N/C	2.7	N/C	N/C
Imports:	Ø	Ø	0.2	-19.4	0.1	-86.7	1.1	-16.9	-36.6
Less Exports	1.0	-20.7	0.5	-82.5	20.7	-18.9	4.1	-18.2	43.6
Net Imports	-1.0	N/C	-0.3	N/C	-20.6	N/C	-3.0	N/C	N/C

Consumption '000 bbls	79,408	37,629	29,769	203,058
Percent 1976/75	2.2%	7.5%	11.5%	6.1%
1975/74	2.5%	-8.9%	-17.3%	-2.9%

N/C: Not Comparable

Table 5

Ontario Net Sales of Petroleum Products 1976 (1)

	<u>Quantities in Thousand Barrels</u>	<u>of Total</u>	<u>Percent Change</u>	
			<u>1976/75</u>	<u>1975/74</u>
Propane (2)	3,933	2.0	35.6	67.5
Butane & Butane Mixes	1,016	0.5	137.3	2,471.6
Petrochemical Feed Stock	7,534	3.9	11.6	-15.6
Naptha Specialties	1,814	0.9	-3.0	-4.5
Aviation Gasoline	332	0.2	2.1	0.3
Motor Gasoline	79,350	41.3	2.2	2.5
Aviation Turbo Fuel	7,083	3.7	-0.4	3.6
Kerosene, Stove Oil, Tractor Fuel	2,256	1.2	-0.8	-9.8
Diesel Fuel Oil	16,792	8.7	5.0	2.2
Light Fuel Oil (Nos. 2 & 3)	37,540	19.6	7.5	-8.9
Heavy Fuel Oil (Nos. 4, 5 & 6)	25,090	13.1	13.5	-17.3
Asphalt	4,767	2.5	-9.2	2.7
Coke	124	0.1	-70.5	12.9
Lubricating Oil & Grease	2,688	1.4	8.3	-3.6
Other Products	1,636	0.9	116.1	18.3
	<hr/>	<hr/>		
Total All Products	191,955	100.0	5.9	-2.9
	<hr/>	<hr/>		

(1) Based on Statistics Canada Report No. 45-004.

(2) Represents Ontario refinery production from crude oil only.

Refinery Capacity

In 1976, there was virtually no change in Ontario refinery capacity which remained at approximately 544,000 bpd. Construction of Texaco Canada's 95,000 bpd plant at Nanticoke was in progress and is expected to be completed in 1978.

The world-scale petrochemical plant under construction near Sarnia by Petrosar Limited, which will have an ultimate capacity to process 175,000 bpd of crude oil, is expected to be fully onstream by the end of 1977. Other major petrochemical construction projects are under way or planned for the Sarnia area.

Table 6

ONTARIO REFINING CAPACITY 1976

Primary Distillation Capacity at Year End
in Thousands of Barrels per Calendar Day

Shell:	Oakville	44.0
	Corunna	80.0
Gulf:	Clarkson	79.0
B.P.:	Trafalgar	78.0
Imperial:	Sarnia	130.0
Texaco:	Port Credit	48.0
Sun Oil:	Sarnia	<u>85.0</u>
Total Ontario -	Thousands B/CD	544.0
	- as percent of Total Canada	24.5%
(Total Quebec - as percent of Total Canada 29.0%)		

Source: Ontario Oil Industry

NATURAL GAS IN ONTARIO

General

During 1976, natural gas consumption in Ontario increased 6 percent to almost 700 billion cubic feet following a decrease of about 3 percent in 1975 over 1974. Natural gas supplied over 24 percent of Ontario's total energy requirements and sales in the province amounted to nearly half of total sales of natural gas in Canada.

Deliveries from western Canada and exports increased while imports decreased from 1975 levels. Extensive use was made of gas storage facilities. The increased cost of gas supplied from western Canada resulted in higher costs for Ontario consumers.

Supplies

1976 production from Ontario natural gas wells decreased more than 50 percent to about 5 billion cubic feet and represented less than 1 percent of total provincial requirements. This decrease followed a 1975 increase of 45 percent over 1974. Output from wells in Lake Erie which supplied over half of total production decreased 50 percent from 1975 levels.

Imports of gas from the U.S.A. decreased and provided less than 1 percent of total supply. In 1976, a major import contract was terminated.

Exports of Canadian gas through Ontario increased almost 5 percent over 1975 and accounted for nearly 2 percent of total disposition. Exports through the Rainy River area of northwestern Ontario, representing about 57 percent of total exports, increased nearly 8 percent. Shipments into northeastern New York State, around 43 percent of exports, increased about 1 percent.

Use by the gas industry in line compressor fuel and other distribution and transmission operations increased nearly 6 percent compared with a 1975 decrease of 25 percent over 1974.

During 1976, the federal government authorized a two-stage increase in the Toronto City Gate reference price for natural gas. The initial increase raised the price from \$1.25 to \$1.405 per Mcf with effect from July 1, 1976. A second increase to \$1.505 per Mcf is to occur effective January 1, 1977.

Storage

In 1976, withdrawals from storage were up 18 percent over 1975 mainly because of a doubling of withdrawals in the fourth quarter. Deposits into storage decreased 15 percent. There was a net excess of withdrawals over deposits in 1976.

At the end of September 1976 (the close of the summer injection period) there were over 143 million Mcf of natural gas available for sale held in storage, 8 percent higher than the corresponding 1975 level.

Sales

During 1976, natural gas sales increased over 6 percent from 1975 levels; this followed the 1975 decrease of 2 percent from 1974. Sales in Ontario continued to account for about half of total sales in Canada.

Sales to residential consumers increased 12 percent from 1975 to approximately 20% of total sales. The number of residential customers increased 4 percent.

Consumption by the commercial sector increased about 10 percent. The number of commercial consumers rose by 6 percent. Combined use by residential and commercial users accounted for over 40 percent of total sales.

The number of industrial users and industrial sales both increased 3 percent. Industrial consumption again accounted for 60 percent of total sales in Ontario.

Table 7

Ontario Natural Gas Balance 1976

	Thousands Cubic Feet*	of Total	Percent Changes	
			1976/75	1975/74
<u>Supply</u>				
Ontario production	4,958,603	0.7	-54.7	45.1
Receipts from				
Western Canada	715,345,738	97.3	3.0	-0.2
U.S.A.	4,006,954	0.5	-60.5	-23.3
	719,352,692			
	11,305,361	1.5	N/C	N/C
Gas from Storage (net)	735,616,656	100.0	1.2	ø
Total Supply				
<u>Disposition</u>				
Sales to consumers	677,374,194	92.1	6.2	-2.0
Free Gas	28,751	ø	8.2	-5.2
Company Use	20,472,076	2.8	5.8	-25.6
Total Consumption	697,875,021	94.9	6.2	-2.9
Gas to Province of Quebec (net)	2,515,403	0.3	81.4	-37.3
Exports to U.S.A.	12,875,006	1.8	4.6	-7.6
Line Pack	5,230,500	0.7	N/C	N/C
Metering, Line Loss and other Unaccounted for	17,120,726	2.3	N/C	N/C
	37,741,635			
Total Disposition	735,616,656	100.0	1.2	ø

*At 14.73 psia

N/C = Not Comparable

Table 8

Natural Gas Sales in Ontario 1976

Comparative Totals by Consumers Categories

Quantities in Thousands Cubic Feet

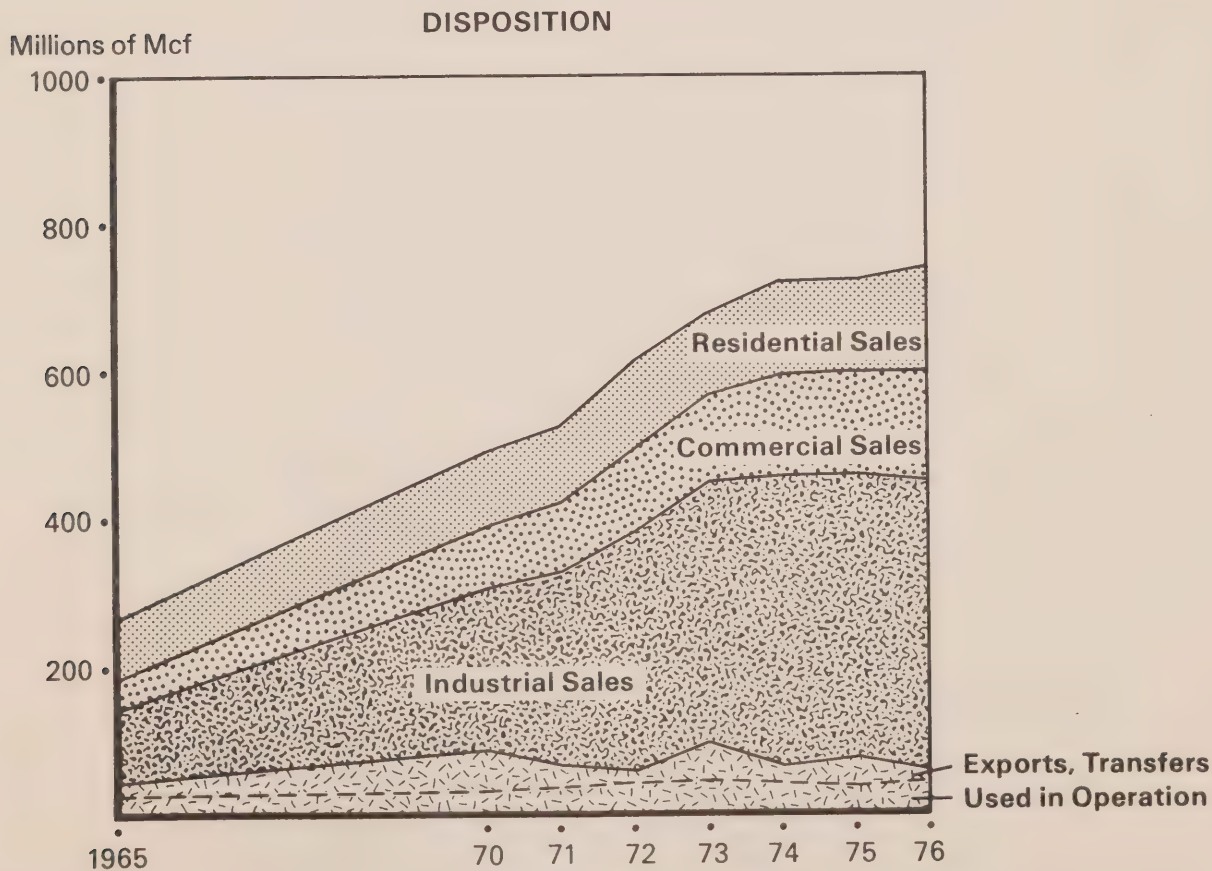
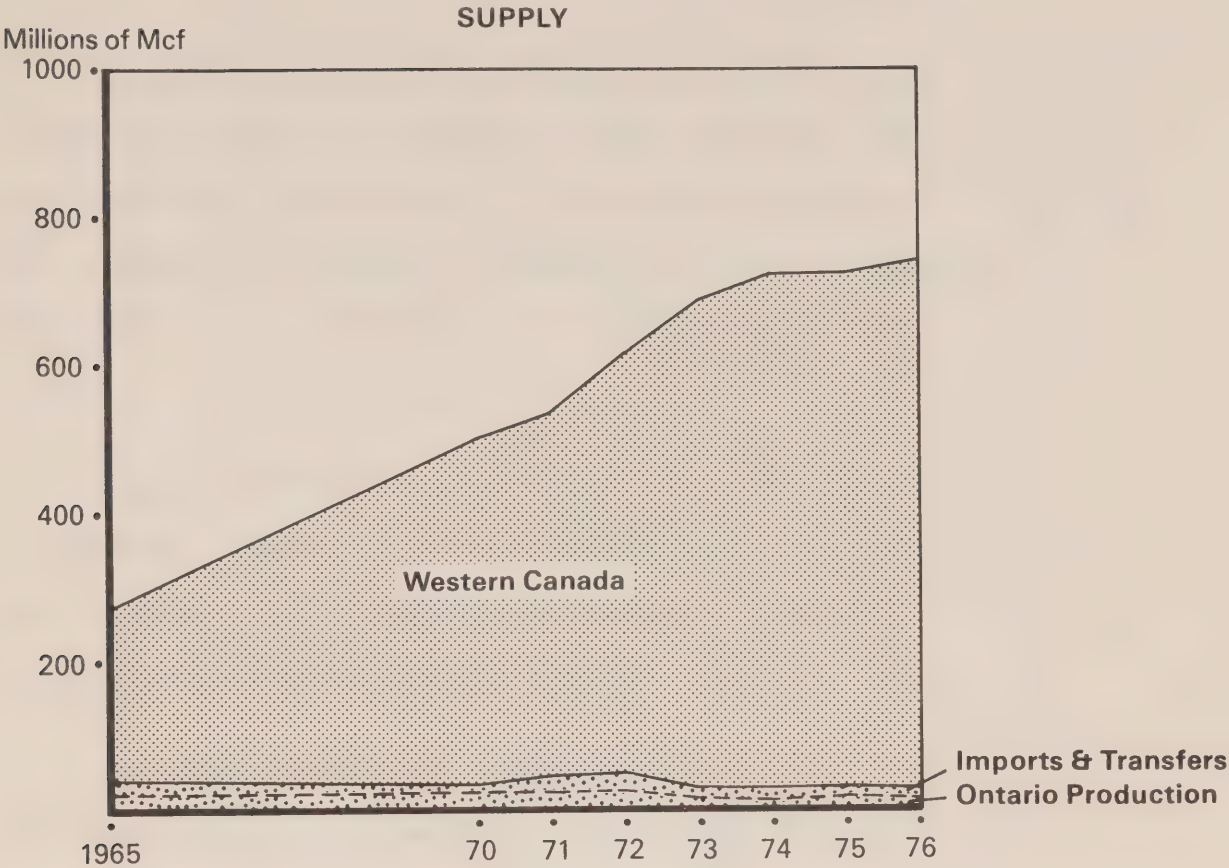
Category of Consumer	Number of Consumers	Percent Changes 1976			
		over 1975		over 1971	
		Quantities	Number of Consumers	Quantities	Number of Consumers
Residential	946,604	135,975,864	3.9	12.1	22.3
Commercial	100,695	152,828,228	6.0	9.6	33.1
Industrial	11,531	388,570,102	3.3	3.1	21.6
TOTALS	1,058,830	677,374,194	4.1	6.2	23.3
					47.4

Percent Changes

	1975 over 1974		1975 over 1970	
	Number of Consumers	Quantities	Number of Consumers	Quantities
Residential	3.5	-2.5	21.8	19.7
Commercial	3.0	0.8	32.0	72.4
Industrial	-0.1	-2.8	24.7	68.8
TOTALS	3.5	-2.0	22.8	57.3

NATURAL GAS IN ONTARIO

Source: Ontario Natural Gas Industry



PROPANE IN ONTARIO

In 1976, supplies of propane from natural gas processing plants in western Canada increased and provided about 60 percent of total Ontario supply. The quantity of propane produced by Ontario refineries was also higher and made up the remainder of the supplies.

Total disposition of propane increased by about 22 percent. Sales of propane to distributors were up by 28 percent but transfers to the petrochemical industry decreased from 1975 levels.

Underground storage for propane and other liquid hydrocarbons was increased by additional development of salt cavern reservoirs in the Sarnia area.

Table 9

Propane Receipts and Disposition in Ontario (1)

1976 Year

In Barrels

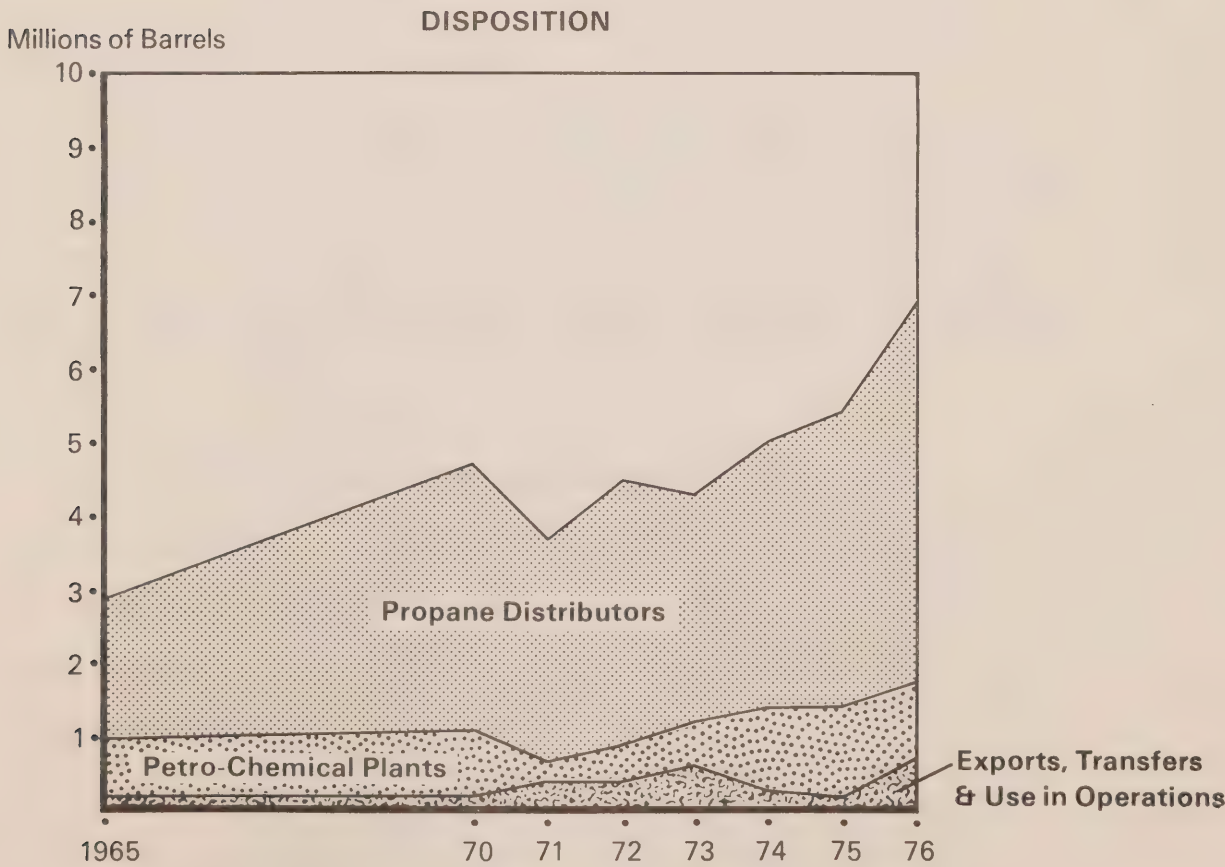
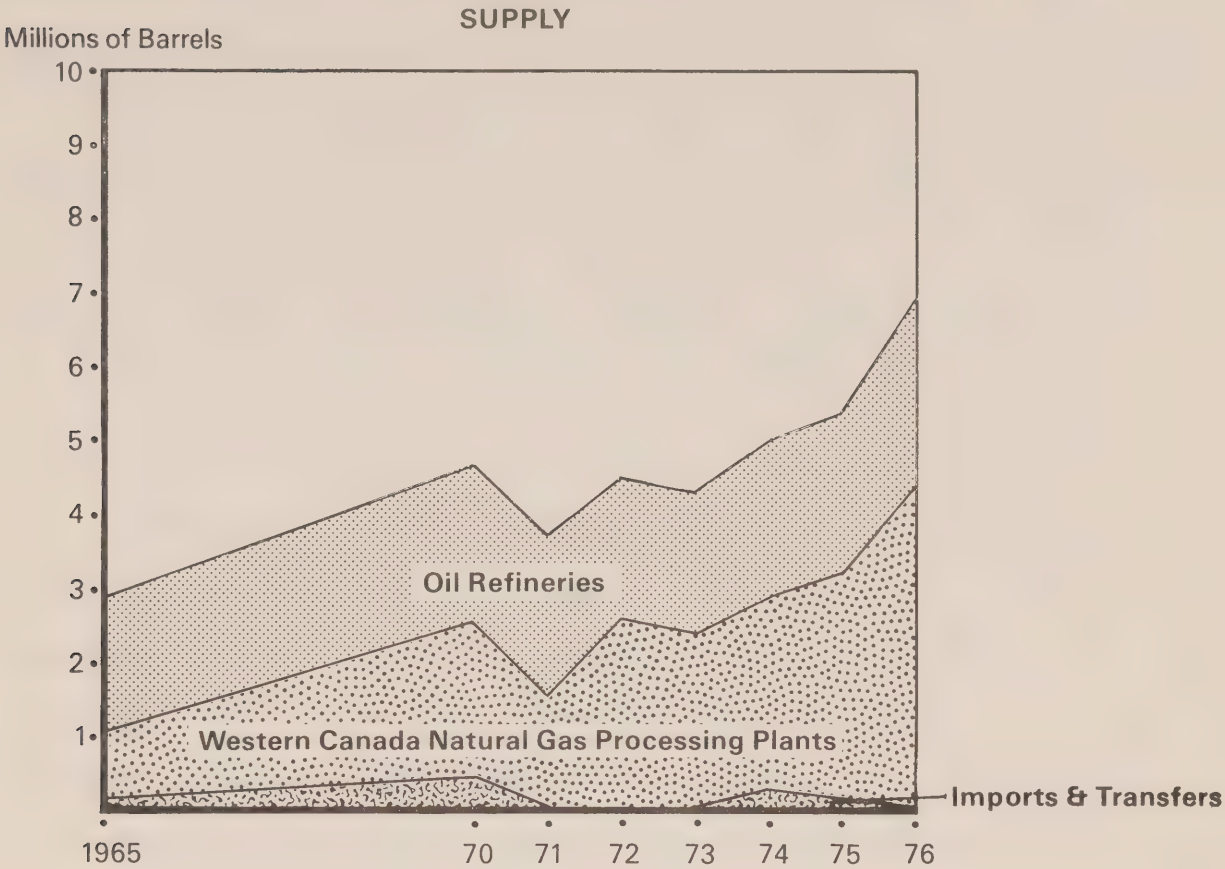
	Quantities	of	Percent Changes	
		Total	1976/5	1975/4
<u>SUPPLY</u>				
Refinery production	2,536,781	38.8	14.2	3.9
Interprovincial transfers	4,264,899	65.3	37.7	16.3
IN	2,023		-95.1	-46.0
OUT				
Net transfers	4,262,876	65.2	39.5	27.6
Inventory changes	-267,438	-4.1		
Net Canadian Supply	6,532,219	100.0	21.6	15.6
Imports	4,745		34.4	-5.9
Less Exports	2,064		100.0	Ø
Net Imports	2,681	Ø	-24.0	Ø
TOTAL SUPPLY	6,534,900	100.0	21.5	15.5
<u>DISPOSITION</u>				
Petrochemical and Industrial	1,030,211	15.8	-16.1	14.0
Distributors (2)	5,184,787	79.4	28.0	12.1
Sub-Total	6,214,998	95.2	17.7	12.5
Plant and refinery use	219,980	3.3	169.0	-34.0
Losses or gains	56,672	0.9	Ø	Ø
Adjustments	43,250	0.6	Ø	Ø
TOTAL DISPOSITION	6,534,900	100.0	21.5	15.5

Notes (1) Statistics Canada No. 57-002.

(2) Identifiable industrial sales are included.
Distributor sales may contain sales to industrial.

PROPANE IN ONTARIO

Source: Statistics Canada No. 57-002, 57-207 & 57-505



PIPELINES IN ONTARIO

Natural Gas Pipelines

During 1976, TransCanada PipeLines placed into service 26 miles of loop line from Toronto to Montreal. (This project was completed early in 1977 with the construction of the remaining 22 miles.) Construction of 17 miles of pipeline completed the looping of the Ottawa extension in 1976.

Consumers Gas added around 190 miles to its Ontario distribution lines during the year. Union Gas increased its distribution lines by nearly 235 miles and added about 40 miles to its transmission lines. Northern & Central Gas added nearly 20 miles to its distribution lines and 15 miles to its transmission lines.

Oil Pipelines

In mid-1976, Interprovincial Pipe Line completed the 520-mile extension of its crude oil line from Sarnia to Montreal. Deliveries through this new line started during June and had reached a level of nearly 220,000 bpd in December 1976.

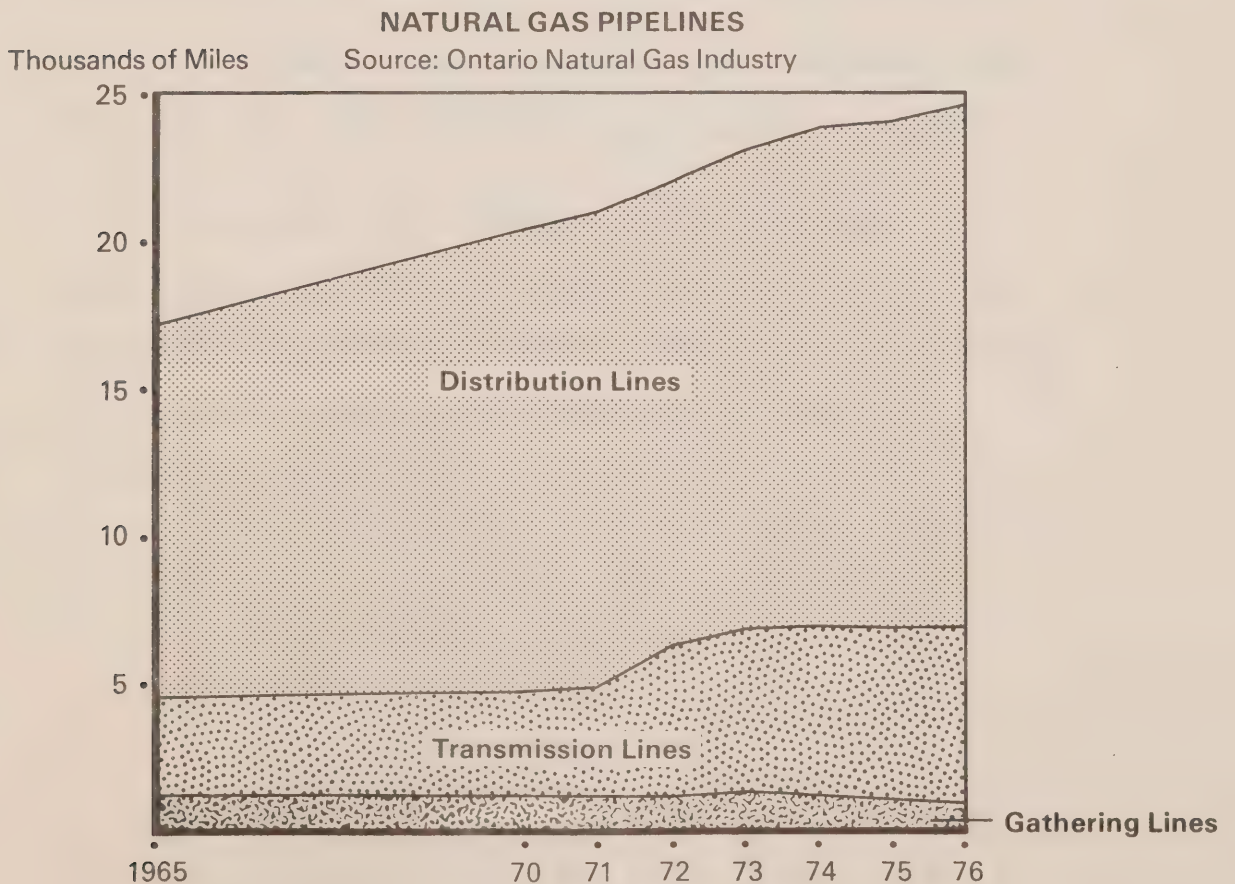
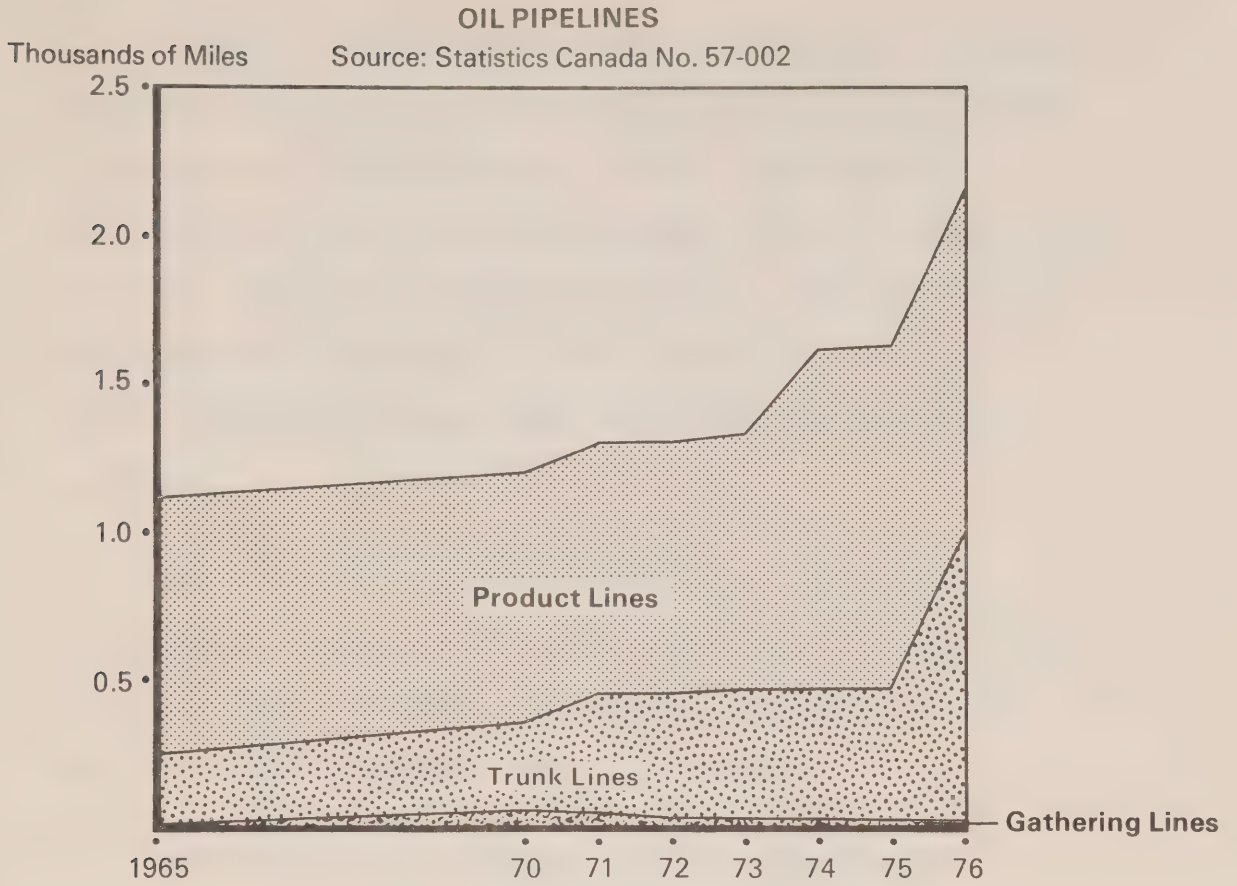
TransNorthern Pipe Lines completed looping a 14-mile stretch of its products line south of Ottawa. It will also reactivate two pumping stations to move more products from Toronto area refineries to the Ottawa market.

The 1977 construction programmes of Interprovincial and TransNorthern include pipeline connections from their main lines with the 95,000 bpd refinery being constructed by Texaco Canada at Nanticoke.

TABLE 10
PIPELINE MILEAGE IN ONTARIO - 1976

	<u>Miles</u>	<u>Percent Changes</u>	
		<u>1976/75</u>	<u>1975/74</u>
<u>Natural Gas Pipelines</u>			
Gathering	942	-5.5	-2.6
Transmission	5,887	2.1	-1.9
Distribution	17,917	3.8	2.9
	<u>24,746</u>	<u>3.0</u>	<u>1.5</u>
TOTAL			
 <u>Oil Pipelines</u>			
Gathering	18	ø	ø
Crude Oil Trunk Lines	961	116.9	ø
Oil Product Lines	1,158	1.1	7.5
	<u>2,137</u>	<u>33.1</u>	<u>5.2</u>
TOTAL			
TOTAL ALL PIPELINES	<u>26,883</u>	<u>4.9</u>	<u>1.4</u>

ONTARIO PIPELINE MILEAGE



COAL IN ONTARIO

In 1976, consumption of coal in Ontario increased around 2 percent over 1975 levels and supplied nearly 15 percent of the province's energy requirements. Over half was used in thermal generation of electricity; this use increased almost 14 percent. The bulk of the remainder was consumed by steel foundries and in other industrial uses; this use decreased about 10 percent.

The bulk of Ontario's supplies of coal was imported from the U.S.A.; the remaining 4 percent was supplied from Canadian coal mines. Deliveries from both sources decreased over 1975 levels.

By the year-end, stocks of coal decreased 5 percent from levels at the beginning of the year.

The price of coal increased but at a lower rate compared with the major increases of 1974 and 1975.

During the year, Ontario Hydro completed agreements with western Canada producers which will result in deliveries of about 3 million tons of coal a year by the 1980's for fuelling its thermal generating stations.

Table 11

ONTARIO COAL BALANCE 1976 (1)

(In thousands of short tons,
rounded to the nearest 1000)

		<u>Anthra- cite</u>	(2) <u>Bitumi- nous</u>	<u>Lig- nite</u>	<u>Total</u>	<u>Percent Changes</u>	
						<u>1976/75</u>	<u>1975/74</u>
<u>SUPPLY</u>							
Domestic:	Western Provinces	-	474	45	519	-37.6	201.4
	Nova Scotia	-	88	-	88	-44.7	N/C
	Total	-	562	45	607	-38.8	257.8
Imports:	U.S.A.	46	15,446	-	15,492	- 6.7	30.5
	Total Coal Supply	46	16,008	45	16,099	- 8.5	35.3
<u>DEMAND</u>							
Industrial:	Consumption (3)	54	8,950	31	9,035	13.8	-1.8
	Net to Inventory (4)	-18	-425	4	-439	N/C	N/C
	Total Demand	36	8,525	35	8,596	- 7.2	26.8
Other (5)	Total Demand	10	7,483	10	7,503	- 9.9	46.4
	Total Coal Demand	46	16,008	45	16,099	- 8.5	35.3

(1) Statistics Canada No. 45-002.

(2) Includes sub-bituminous in small quantities.

(3) Industrial Consumption excludes firms using less than 1,000 tons per annum and coal "charged to ovens" to make coke (includes electric utilities).

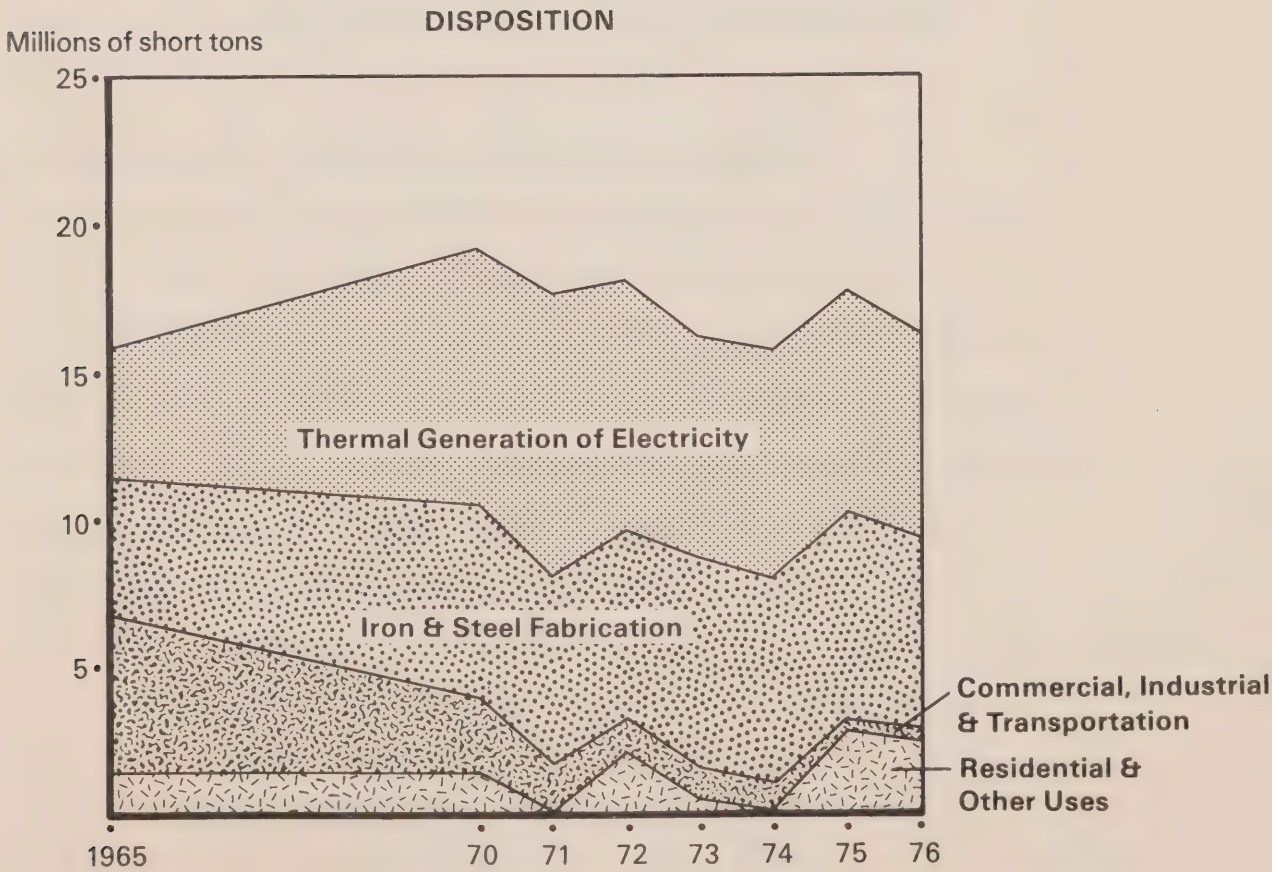
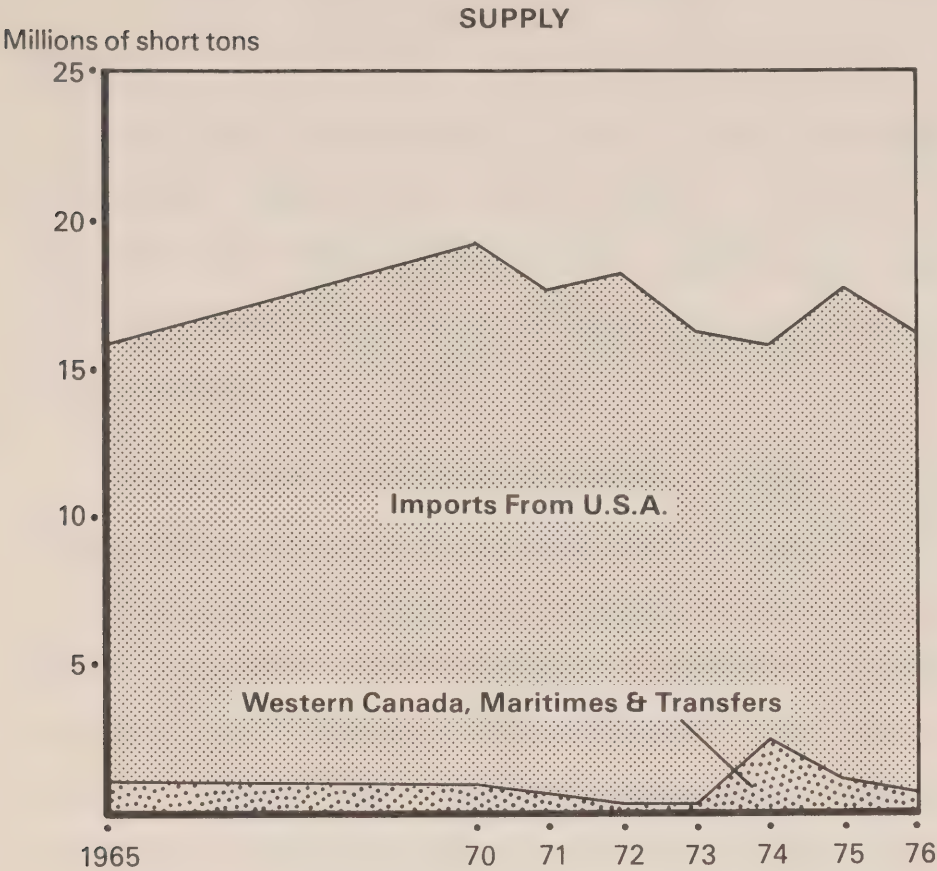
(4) Excludes stocks held by firms using less than 1,000 tons per year.

(5) Retail to residential, commercial and industrial users including coke production, railway, ship bunker, government and institutional consumption, which is calculated by the difference between the total coal supply and the sum of (3) and (4).

N/C: Not Comparable

COAL IN ONTARIO

Source: Statistics Canada No. 45-002, 57-505 & 57-207



ELECTRICITY IN ONTARIO

General

In 1976, consumption of electricity increased more than 7 percent over 1975 levels. In 1975 a small increase over 1974 was recorded. Electricity continued to supply over 30 percent of Ontario's total energy requirements.

Power from hydraulic generation (which provided nearly 40 percent of total electricity) decreased slightly. Thermal generation, both fossil and nuclear-fired, supplied over 50 percent. Nuclear generation increased by 40 percent and provided 17 percent or over 16 billion kwh. Purchases from other sources including imports decreased 3 percent to around 15 billion kwh. Exports and sales to other provinces increased nearly 30 percent to over 6 billion kwh.

Ontario Hydro Generating Plant Developments

In 1976, six commissioned units of the Nanticoke 8 x 500 MW coal-fired station were in operation for most of the year. In December 1976, defects found in boiler hanger rods required that the 6 operating units be taken out of service for testing and repairs. Subject to completion of these repairs, units 7 and 8 are expected to be in operation in 1978.

Three of the four 575 MW units of the oil-fired Lennox station near Kingston were brought into service during 1976. The fourth unit was to be added early in 1977.

One of the two units of the Arnprior 74 MW station, the only hydraulic plant under construction, was completed in September. The second unit came into service early in 1977.

The Pickering "A" 4 x 540 MW nuclear generating station produced nearly 17 billion kw, about 20 percent of Ontario Hydro's total 1976 generation. This also represented a 50 percent increase over its 1975 output. Of the four Pickering units, three operated at more than 90 percent capability.

Construction of the Pickering "B" nuclear generating station (a duplicate of the Pickering "A" 2,160 MW station) was well under way; its first unit is planned to be in production in 1981.

In December 1976 the first nuclear unit at Bruce began producing power to the network and was followed by the second unit in January 1977. These two 750 MW units were producing significant power to the entire hydro grid in the early months of 1977. This marked the start-up of Ontario Hydro's second large nuclear generating station. It is expected that the two units will be in commercial service in late 1977, and the complete station will be in service by 1979.

The 200 MW Douglas Point nuclear generating station operated at 90 percent of its capacity was shut down in September for repairs. Of its output, 65 percent was supplied as steam to the Bruce "A" heavy water plant and the remainder was fed as electricity to the Ontario Hydro system.

Construction of the Thunder Bay two-unit 300 MW coal-fired extension to the existing station was well under way; this addition is expected to be completed by 1981.

Heavy Water

In 1976, the Bruce "A" heavy water plant produced around 800 tons of reactor-grade water, an increase of about 20 percent over 1975. This output represented around 90 percent of plant capacity.

Construction of the second 800 tpy Bruce "B" heavy water plant progressed and is expected to be completed in 1979. Construction also continued at the Bruce "D" heavy water plant; its in-service date is 1981.

In 1976, Canadian supplies of heavy water domestically produced and imported increased about 30 percent over 1975 levels. Under the heavy water pool agreement, AECL purchased 800 tons from Bruce, 190 tons from its

Port Hawkesbury plant and 75 tons from its reconstructed 400 tpy Glace Bay plant, both in Nova Scotia, and 30 tons of imports from West Germany and Norway. Construction continued on the 800 tpy plant at LaPrade, Quebec, and is expected to be in-service by 1982.

Uranium

In 1976, deliveries from Ontario uranium mines decreased to about 8.6 million pounds; a decrease of 19 percent from 1975 levels. Ontario shipments accounted for 64 percent of the Canadian total. In comparison, Saskatchewan, Canada's other major producing province, delivered 4.8 million pounds which was 3 times their 1975 level. Saskatchewan deliveries accounted for over 35 percent of total Canadian shipments in 1976.

Producers engaged in mining Ontario's extensive uranium reserves at Elliott Lake, Denison Mines Ltd. and Rio Algom Ltd., plan major increases in the capacity of their milling plants to handle higher expected production. Near Espanola, east of Elliott Lake, a new mine being developed by Agnew Lake Mines is expected to be in production in 1977. Madawaska Mines Ltd., incorporated to recover uranium from an inactive mine near Bancroft, commenced operations in the fall of 1976. Other significant Canadian uranium reserves mainly are centred in northern Saskatchewan; in that region near Rabbit Lake production which began in 1975 reached full capacity in the fall of 1976. Exploration for further additions to Canada's uranium

reserves was being carried out mainly in northern Saskatchewan and eastern Labrador.

Table 12 Electric Energy Balance 1976

<u>Supply</u>	Ontario Hydro (1)	Ontario (2)		
	Billions (10 ⁹) kwh	Billions (10 ⁹) kwh	Percent Changes	
			1976/75	1975/74
Utilities Generation				
- Hydraulic	35.2	36.7	-0.3	-7.5
- Thermal				
Conventional etc.	30.4	30.4	15.6	5.2
Nuclear	16.4	16.4	39.0	-15.1
- Total	82.0	83.5	11.5	-4.8
Industry Generation				
- Hydraulic	-	1.6	0	0
- Thermal	-	2.1	10.5	-9.5
- Total	-	3.7	5.7	-5.4
Total Generation				
- Hydraulic	35.2	38.3	-0.3	-7.3
- Thermal				
Conventional, etc.	30.4	32.5	15.3	4.1
Nuclear	16.4	16.4	39.0	-15.1
- Total	82.0	87.2	11.2	-4.9
Net Purchases (3)	8.7	8.7	-18.7	72.6
Total Supply	90.7	95.9	7.6	0.6
<u>Disposition</u>				
Sales				
- Commercial & Industrial		45.7	4.1	-4.4
- Domestic & Farm		20.4	5.7	3.2
- Street Lighting		0.5	0	0
- Total Sales		66.6	4.6	-2.2
Own Plant Use		9.4	9.3	6.2
Unallocated and Distribution by Non-respondents		19.9	18.5	9.1
Total Disposition		95.9	7.6	0.6

(1) Ontario Hydro Corporation

(2) Statistics Canada No. 57-001

(3) Other Provinces and U.S.A. only; excludes transfers within Ontario and purchases from AECL Douglas Point Nuclear Generating Station which is included in "Nuclear".

ELECTRICITY IN ONTARIO

Source: Statistics Canada No. 57-001 & 57-202

